

**Historical Resources Evaluation Report
Caltrans Statewide Historic Bridge Inventory: 2010 Update**

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Prepared for

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Summary of Findings

As part of the California Department of Transportation's (Caltrans) 2010 Update to the Statewide Historic Bridge Inventory (2010 Update), Mead & Hunt, Inc. (Mead & Hunt), as a sub consultant to Statistical Research, Inc., was retained to evaluate 14 bridges and two tunnels for their eligibility for listing in the National Register of Historic Places (National Register). In addition, these structures were to be evaluated in accordance with Section 15064.5(a)(2)-(3) of the California Environmental Quality Act (CEQA) guidelines using the criteria outlined in Section 5024.1 of the California Public Resources Code.

A statewide bridge survey was carried out by Caltrans in the 1980s, which included bridges that were more than 50 years in age at the time. An update to the survey was performed in 2003-2006 to include all bridges constructed prior to 1960. The 2010 Update evaluates bridges constructed from 1960-1964. Earlier updates to the Statewide Historic Bridge Inventory evaluated numerous bridge types and materials, including the types or materials of the 16 structures that were evaluated in this update. Types and materials included suspension, concrete box girder, metal truss, steel beam, tunnels, prestressed concrete, and movable span bridges.

More than 3,000 structures were built in California during the period (1960-1964). Caltrans completed a screening of these structures and identified 16 structures that are potentially significant and require evaluation. These structures include four steel beam, three metal truss, three movable, two tunnel, one box girder, one suspension, one prestressed channel beam, and one prestressed concrete girder.

One bridge (Bridge No. 22C0168R) was identified to be a component of a larger unevaluated property that may possess National Register significance. As a result, this bridge was not evaluated (*California Historic Bridge Inventory* Category 4: status undetermined, requires further research) and no further work was completed.

Based on the evaluations in this report, six of the remaining 15 structures are recommended eligible for inclusion in the National Register and are considered historical resources for the purposes of compliance with CEQA:

04-0123	United States Highway (US) 101 over the Eel River, Humboldt County Steel beam bridge, built in 1962
06-0096	State Route (SR) 299 over Whiskey Creek, Shasta County Steel beam bridge, built in 1961
10-0146	US 1 over the Big River, Mendocino County Concrete box girder bridge, built in 1961
12-0134	SR 70 over the West Branch Feather River, Butte County Steel truss bridge, built in 1962
23-0024	SR 12 over the Sacramento River, Rio Vista, Solano County Steel truss lift bridge, built in 1944 /1960
53-1471	SR 47 over Los Angeles Harbor, Los Angeles Suspension bridge, built in 1963

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DPR 523 Forms in Appendices A and B for these resources are not included.

Please contact the Caltrans Division of Environmental Analysis, Cultural Studies Office for more information by calling or emailing Janice Calpo at 916-653-0802 or Janice.Calpo@dot.ca.gov.

1. Project Description

Caltrans carried out a statewide historic bridge survey in 1986-1988 of bridges more than 50 years in age at the time, and an update in 2003-2006 included bridges and tunnels constructed prior to 1960. The 2010 Update evaluates structures in the state built from 1960-1964 on state highways and local roads. Caltrans completed an initial screening of more than 3,000 structures built during this period. Fourteen bridges and two tunnels were identified as possessing possible significance and requiring evaluation. The California State Historic Preservation Officer agreed to this methodology on January 11, 2010.

The purpose of this project was to evaluate these 16 structures for National Register eligibility to streamline project compliance with Section 106 of the National Historic Preservation Act, to determine if they are considered historical resources for the purposes of compliance with CEQA and for state-owned structures, Public Resources Code § 5024.

For the purposes of this update, the 16 structures selected for evaluation fall within eight structure types:

- Steel beam
- Metal truss
- Movable
- Tunnel
- Box girder
- Suspension
- Prestressed channel beam
- Prestressed concrete girder

Relevant historic contexts and evaluation guideline reports for each type are listed in Section 4 below.

2. Research Methods

Caltrans completed a screening of more than 3,000 structures built from 1960-1964 to identify those that appeared to possess possible significance. The screening identified structures that had the potential to meet the National Register *Criteria for Evaluation* based on their age, size, innovations, or aesthetics.

Caltrans' screening identified a small number of structures that appeared to possess possible significance, while the majority of bridges during this period were found to be ineligible for listing in the National or State Registers. For example, many of these post World War II bridges were highway bridges of standard design or were long-established types that exhibited common characteristics. Caltrans determined these bridges did not meet the National Register *Criteria for Evaluation*.

The 16 structures identified in the screening were then field surveyed by Mead & Hunt staff. Field survey found these structures retained good integrity, but many did not possess sufficient engineering, aesthetic, or historical significance based on comparative analysis using the established historic contexts. Based on Caltrans' screening process, the remaining structures from this period were not formally evaluated but are considered to lack significance and are not eligible for listing in the National or State Registers.

Research focused on established bridge and tunnel contexts and evaluation guidelines prepared for Caltrans. Additional research sources included Caltrans' historic bridge database; Bridge Inspection Reports from Caltrans' Bridge Inspection Records Information System; as-built drawings; correspondence, building, and contract information; articles found in *California Highways and Public Works*, *Engineering News Record*, and other engineering journals; and *A Context for Common Historic Bridge Types* to complete evaluations of the 16 structures. Section 8 of this report presents the complete bibliography of sources consulted to complete the evaluations.

Caltrans maintains the *California Historical Bridge Inventory* and their historic status codes, which are called Categories. Each bridge is assigned to Categories 1-5. Category 1 bridges are listed in the National Register; Category 2 bridges are eligible for listing; Category 3 bridges may be eligible for listing; Category 4 bridges are unevaluated; and Category 5 bridges are not eligible for listing. The status of the 16 structures is summarized in the *Findings and Conclusions* section.

3. Field Methods

Following the review of information provided by Caltrans and the collection of additional sources, Mead & Hunt completed field survey for each structure during May and June 2010 following the guidelines provided in Caltrans' *Standard Environmental Reference*. Mead & Hunt conducted field survey activities from the public right-of-way or were escorted by Caltrans District staff to gain access to the structures when access was required. High resolution digital images and descriptive information were recorded to complete Department of Parks and Recreation (DPR) 523 Forms A and B (see Appendices A and B).

4. Historical Overview

Caltrans developed a general bridge context and specific bridge type inventory and context updates between 2003 and 2006. The following contexts relate to the bridges and tunnels for this project:

- *Roadway Bridges of California: 1936-1959* (JRP Historical Consulting Services, 2003)
- *Caltrans Statewide Historic Bridge Inventory Update, Survey and Evaluation of Common Bridge Types* (Caltrans, 2004)
- *Caltrans' Historic Bridges Inventory Update, Concrete Box Girder Bridges* (Myra L. Franks & Associates and Caltrans, 2004)
- *City of Los Angeles Monumental Bridges, 1900-1950* (JRP Historical Consulting Services, 2004)
- *Caltrans Statewide Historic Bridge Inventory Update, Tunnels* (Myra L. Franks & Associates and Caltrans, 2006)
- *Caltrans Historic Bridges Inventory Update: Timber Truss, Concrete Truss, and Suspension Bridges* (JRP Historical Consulting Services, 2004)
- *Caltrans Historic Bridges Inventory Update: Metal Truss, Movable, and Steel Arch Bridges* (JRP Historical Consulting Services, 2004)

These reports provide historic contexts that identify the important trends and design and construction considerations that may result in possible significance for bridges and tunnels. Site specific research included the use of engineering journal articles, inspection reports, construction drawings, bridge contract documents, and secondary sources noted in the bibliography and on the DPR Forms in Appendices A and B.

5. Description of Cultural Resources

This section provides a list of the 14 bridges and two tunnels with a brief rationale for their selection in the update. Detailed physical descriptions and an evaluation of historic significance and integrity are provided on the DPR Forms in Appendices A and B. Each bridge type is organized by structure number and includes its location.

Steel beam

- 04-0065 (Humboldt County): US 101 over the Eel River at post mile 17.89 – Long-span steel beam structure.
- 04-0123 (Humboldt County): US 101 over the Eel River at post mile 27.71 – Long-span steel beam structure.
- 06-0096 (Shasta County): SR 299 over Whiskey Creek at post mile 14.17 – Long-span steel beam structure.
- 32-0035 (Tuolumne County): SR 120 over the Tuolumne River at post mile 46.82 – Long-span steel beam structure.

Metal truss

- 08C0087 (Tehama County): Osborn Road over Mill Creek – Pre-1960 metal truss structure, relocated in 1960.
- 12-0134 (Butte County): SR 70 over the Feather River at post mile 28.22 – Large steel cantilever truss structure.
- 52-0178 (Ventura County): Ventura Underpass, US 101 at post mile 30.01 – Large steel truss structure.

Movable

- 23-0024 (Solano County): SR 12 over the Sacramento River at Rio Vista – Lift span; reconstructed in 1960.
- 24C0039 (Sacramento County): Isleton Road over Georgiana Slough – Swing span; one of only three moveable bridges dating to 1960-1964.

- 22C0168R (Yolo County): SR 84 over Yolo Barge Canal at post mile 20.61 – Bascule span; one of only three moveable bridges dating to 1960-64.

Tunnel

- 01-0049 (Del Norte County): Collier Tunnel, SR 199 at post mile 33.52 - 1,900 foot long tunnel.
- 33-0106L (Alameda County): Webster Street Tube, between Oakland and Alameda – Parallel to the 1927 Posey Tube, which is eligible for National Register listing.

Box girder

- 10-0146 (Mendocino County): US 1 over the Big River at post mile 50.17 – Long-span concrete box-girder structure.

Suspension

- 53-1471 (Los Angeles County): Vincent Thomas Bridge, SR 47 at post mile 0.86 – The first large suspension bridge built in California since the Golden Gate and Bay Bridges in the 1930s. Main span of 1,500 feet.

Prestressed concrete channel beam

- 18C0032 (Sutter County): Brewer Road over Yankee Slough – Early prestressed concrete channel beam structure (a new type in the 1960s).

Prestressed concrete girder

- 30C0073 (Calaveras County): Camanche Parkway over Mokelumne River – was selected as the longest pre-1965 concrete box girder span after Bridge 53-0739, which is slated for demolition. Field survey and comparative analysis of this bridge resulted in re-classification for evaluation as a prestressed concrete girder.

6. Findings and Conclusions

Six structures meet one or more of the National Register *Criteria for Evaluation* and are recommended as eligible for inclusion in the National Register and the California Register of Historical Resources. DPR 523 Forms for the properties recommended eligible are provided in Appendix A. These six properties are assigned Category 2 (determined eligible for the National Register) in the *Historic Bridge Inventory* and are briefly described below:

- Bridge 04-0123 (Humboldt County), a steel beam structure, meets *Criterion C* at the state level of significance for its distinctive design aesthetic, blending functionality with consideration for its site and natural setting. The bridge's period of significance is 1962, representing its date of

construction. The National Register-eligible boundaries of the property are limited to the bridge structure itself, including its superstructure and substructure elements.

- Bridge 06-0096 (Shasta County), a steel beam structure, meets *Criterion C* at the state level of significance for its advancements in the innovative use of new steel alloys within the context of steel beam design. The bridge is also noted for its exceptional span length, which was the longest steel beam span in California at the time of its construction. The bridge's period of significance is 1961, representing its date of construction. The National Register-eligible boundaries of the property are limited to the bridge structure itself, including its superstructure and substructure elements.
- Bridge 10-0146 (Mendocino County), a concrete box girder structure, meets *Criterion C* at the state level of significance as a distinctive example of mid-twentieth-century aesthetics as applied to box girder bridge design. The bridge's period of significance is 1961, representing its date of construction. The National Register-eligible boundaries of the property are limited to the bridge structure itself, including its superstructure and substructure elements.
- Bridge 12-0134 (Butte County), a double-deck steel Warren through truss structure, meets *Criterion C* at the state level of significance for its exceptionally tall bridge piers as well as from its design and engineering techniques required to carry both vehicular and railroad traffic over the extremely deep Feather River channel. The bridge's period of significance is 1962, representing its date of construction. The National Register-eligible boundaries of the property are limited to the bridge structure itself, including its superstructure and substructure elements.
- Bridge 23-0024 (Solano County), a steel Warren through truss lift-span structure, meets *Criterion C* at the state level of significance as a significant example of a rare bridge type. This bridge is the second longest lift bridge in California in terms of structure length and has the second tallest vertical clearance for a lift span. Only six lift bridges remain in the state. The bridge's periods of significance are 1944 for the truss approach spans and 1960 for the remainder of the property, representing its dates of construction. The National Register-eligible boundaries of the property consist of the bridge structure itself, including its superstructure and substructure elements, and the operator's house on the west lift tower.
- Bridge 53-1471 (Los Angeles), a steel suspension structure with welded steel girder approaches, meets *Criterion A* at the local level of significance for its association with the development of the Port of Los Angeles and as a monumental entry bridge for the city of Los Angeles. The bridge also meets *Criterion C* at the state level of significance as a significant example for an uncommon bridge type, with exceptional span length, a monumental scale, and design complexity. The bridge's period of significance is 1963, representing its date of construction. The National Register-eligible boundaries of the property consist of the bridge structure itself, including its superstructure and substructure elements, and the former toll plaza administration building on the bridge's east approach.

One structure was identified as part of a larger property and was therefore not evaluated. For now, the structure will be assigned Category 4 (status undetermined, requires further research) in the *Historic Bridge Inventory* and is briefly described below:

- Bridge 22C0168R (Yolo County), a steel truss single-leaf bascule structure, is associated with the construction and early operation of the Yolo Barge Canal and Sacramento River Deep River Project. The Yolo Barge Canal Bridge was constructed in 1960 by the U.S. Army Corps of Engineers and Sverdrup & Parcel, Inc. to provide access between the forks of the ship channel via the Yolo Barge Canal. The bridge was one of the final portions of the construction of the Port of Sacramento's Sacramento River Deep Water Ship Canal project. The Yolo Barge Canal was completed in 1960, the same year as the completion of the channel project itself, though it was another three years before a ship arrived in the port. This bridge was given Category 4 and was not evaluated under this project.

Nine structures do not meet National Register *Criteria for Evaluation* and are recommended as not eligible for inclusion in the National Register. These nine properties are listed as Category 5 (determined not eligible for the National Register) in the *Historic Bridge Inventory*. DPR Forms for these structures are provided in Appendix B.

- Tunnel 01-0049 (Del Norte County), a single-bore tunnel.
- Bridge 04-0065 (Humboldt County), a variable-depth steel beam structure.
- Bridge 08C0087 (Tehama County), a steel Pratt pony truss structure, relocated to its current site in 1960.
- Bridge 18C0032 (Sutter County), a prestressed concrete channel beam structure.
- Bridge 24C0039 (Sacramento County), a variable-depth steel girder swing-span structure.
- Bridge 30C0073 (Calaveras County), a prestressed concrete girder/reinforced concrete box girder structure.
- Bridge 32-0035 (Tuolumne County), a variable-depth steel beam structure.
- Tunnel 33-0106L (Alameda County), a precast concrete tube tunnel.
- Bridge 52-0178 (Ventura County), a steel Warren through truss structure used for railroad traffic.

7. Preparers Qualifications

This report was prepared by Chad Moffett, Richard Mitchell, and Christina Slattery with Mead & Hunt. Moffett holds a B.A. in American History and an M.A. in Cultural Resource Preservation from the University of Wisconsin. Moffett has 11 years with Mead & Hunt completing historic resource surveys and Section 106 compliance. Mitchell holds a B.A. in Political Science from Texas Christian University and an

M.S. in Community and Regional Planning with Specialization in Historic Preservation from the University of Texas at Austin. Slattery holds a B.A. in Art History from University of Wisconsin and an M.S. in Historic Preservation from Ball State University. Mitchell and Slattery both have over 16 years of experience in historic resources management and regulatory compliance. Mead & Hunt staff working on this project meets the Secretary of the Interior's Professional Qualifications.

8. Bibliography

As Built Plans - Bridge 04-0065 (Caltrans Record). Designed in 1962.

As Built Plans - Bridge 06-0096 (Caltrans Record). Designed in 1959.

"An Architect Concentrates On Aesthetics in Bridge Design." *Pacific Builder & Engineer* 64, no. 4 (April 1958): 86-7.

Baker, George, Tim Ingham, and Dan Heathcote. "Seismic Retrofit of Vincent Thomas Suspension Bridge." *Transportation Research Record No. 1624*, 1998: 64-72.

Ben C. Gerwick, Inc. "Posey-Webster Street Tubes, Oakland, CA." *Welcome to Ben C. Gerwick, Inc.* n.d. http://www.gerwick.com/pdf/04_048e%20posey_webster%20street%20tubes.pdf (accessed June 29, 2010).

Bridge Inspection Reports (Caltrans Record). 2007-2009

Bridge Reports (Caltrans Record). 1960-1963

Bridge Reports – Revised (Caltrans Record). 1961-1963, 1975, 1979-1980, 1996.

"Cableway Eases Construction of Yosemite Park Access Bridge." *Engineering New-Record* 169, no. 7 (August 1962): 40-42.

California Division of Highways. "As Built Plans – Bridge 10-0146." 1958.

California Division of Highways. "As Built Plans - Bridge 30C0073." 1962.

Caltrans. *Schuyler Heim Bridge Replacement and SR-47 Expressway Project: Final Environmental Impact Statement/Environmental Impact Report and Section 4(f) Evaluation*. n.p., 2009.

Contract for Operation, Maintenance, and Replacement of West Branch Feather River Bridge (Caltrans Record). 6 February 1963.

Division of Highways, Department of Public Works, State of California. "Award Winning Bridges." *California Highways and Public Works* 44, no. 1-2 (January-February 1965), 40-41.

Division of Highways, Department of Public Works, State of California. "Bridges." *California Highways and Public Works* 40, no. 11-12 (November-December 1961), 53-60.

Division of Highways, Department of Public Works, State of California. "Bridges." *California Highways and Public Works* 41, no. 11-12 (November-December 1962): 54-61.

Division of Highways, Department of Public Works, State of California. "Bridges." *California Highways and Public Works* 42, no. 11-12 (November-December 1963), 50-55.

Division of Highways, Department of Public Works, State of California. "New Toll Bridge." *California Highways and Public Works* 39, no. 7-8 (July-August 1960), 20-21.

Division of Highways, Department of Public Works, State of California. "Oakland Alameda Tube." *California Highways and Public Works* 38, no. 5-6 (May-June 1959), 24-25.

Elliott, A. L. "How to Use High-Strength Steel Effectively." *Engineering News-Record* 164, no. 7 (February 1960), 52-60.

Elliott, A. L. "Prize Bridges." *California Highways and Public Works* 43, no. 1-2 (January-February 1964), 28-31.

Gelernter, Mark. *A History of American Architecture: Buildings in their Cultural and Technological Context*. Hanover, N.H.: University Press of New England, 1999.

Gnerre, Sam. *The Vincent Thomas Bridge - History*. 21 October 2009.
<http://www.insidesocal.com/history/2009/10/the-vincent-thomas-bridge.html> (accessed June 17, 2010).

Greene, George A., and E. G. Pomeroy. "Tube Report." *California Highways and Public Works* 40, no. 1-2 (January-February 1961), 25-31.

Groebe, Frederick, and Richard C. Warner. "Collier Tunnel." *California Highways and Public Works* 42, no. 9-10 (September-October 1963), 2-6.

Hope, Andrew. *Caltrans Statewide Historic Bridge Inventory Update - Survey and Evaluation of Common Bridge Types*. California Department of Transportation, November 2004.

JRP Historical Consulting Services. *Caltrans Historic Bridges Inventory Update: Metal Truss, Movable, and Steel Arch Bridges*. Prepared for State of California Department of Transportation, n.p., September 2004 (revised).

JRP Historical Consulting Services. *Historic Context Statement - Roadway Bridges of California: 1936-1959*. Prepared for State of California Department of Transportation, n.p., January 2003.

Lee, Thomas S., Thomas Jackson, and Randy R. Anderson. "Innovative Designs of Seismic Retrofitting the Posey and Webster Street Tubes, Oakland/Alameda, California." *3rd National Seismic Conference on Bridges and Highway Structures*. Portland, Ore., 2002.
http://www.pbworld.com/news_events/publications/technical_papers/pdf/8_InnovativeDesigns.pdf (accessed 1 July 2010).

- Lenhart, Gary. "Posey Tube and Webster St Tube, Alameda CA." *Alameda, CA city information*. n.d. http://www.alamedainfo.com/Posey_Tube.htm (accessed 30 June 2010).
- Letter and plans sent from Dennis Owen to Barry Pavan (Caltrans Record). 16 April 1996.
- Lortie, Frank. "A Monument to Progress: The Posey Tube and the East Bay's Transition to the Age of the Automobile." *California History* (Winter 1995/1996), 422-433.
- Mead & Hunt, Inc. *Historic Context for Nebraska Bridges, 1947-1965*. Prepared for Nebraska Department of Roads, n.p., October 2005.
- Mead & Hunt, Inc. *Indiana Bridges Historic Context Study, 1830s-1965*. Prepared for the Indiana Department of Transportation, n.p., February 2007.
- Mead & Hunt, Inc. *Minnesota Bridges, 1956-1970: Politics, Policies, Technology, and Design*. Prepared for the Minnesota Department of Transportation, n.p., May 2008.
- Mead & Hunt, Inc. *Phase I: Research and Preliminary Context Development, Statewide Historic Bridge Inventory, 1945-1965*. Prepared for the Texas Department of Transportation, February 2006.
- Mead & Hunt, Inc. and Allee, King, Rosen & Fleming, Inc. *Contextual Study of New York State's Pre-1961 Bridges*. Prepared for the New York State Department of Transportation, n.p., 1999.
- Myra L. Frank & Associates. *Caltrans' Historic Bridges Inventory Update: Concrete Box Girder Bridges*. n.p., August 2003. With revisions made by Andrew Hope, California Department of Transportation, April 2004.
- Myra L. Franks & Associates and California Department of Transportation. *Caltrans Statewide Historic Bridge Inventory Update: Tunnels*. n.p., 2003 and 2006.
- Names, W. C., and William F. Wolfson. "Webster St. Tube." *California Highways and Public Works* 42, no. 3-4 (March-April 1963), 10-15.
- National Steel Bridge Alliance. "Prize Bridge: 1960s Winners," American Institute of Steel Construction, <http://www.aisc.org/contentNSBA.aspx?id=21368> (accessed 16 July 2010).
- Office Report - Estimate of Cost (Caltrans Record). 12 August 1952.
- Parker, P. E., and H. J. Whitlock. "Webster St. Tube." *California Highways and Public Works* 39, no. 3-4 (March-April 1960), 11-12.
- Parker, Paul E., and H. L. Payne. "U.S. 199 Tunnel." *California Highways and Public Works* 40, no. 5-6 (May-June 1961), 27-30.

Pettine, J. D. "Whiskey Creek." *California Highways and Public Works* 41, no. 3-4 (March-April 1962), 33-36.

Poppe, John B. "Cable Spinning." *California Highways and Public Works* 42, no. 1-2 (January-February 1963), 9-13.

Port of Los Angeles. *CA-47 Vincent Thomas Bridge*. n.d.
http://www.portoflosangeles.org/transportation/ca_47.asp (accessed 17 June 2010).

Report of Completion - Bridges: Sacramento River Bridge (Rio Vista) (Caltrans Record), March 2007.
Located in the Bridge Inspection Records Information System files of Caltrans.

Report of Completion - Bridges: Vincent Thomas Bridge (Caltrans Record). September 2009. Located in the Bridge Inspection Records Information System files of Caltrans.

Sacramento County Engineers Office. "As Built Plans – Bridge 24C0039." 2 February 1961.

Salter, R. J. "Prefabricated Sections Used in Construction of Webster Street Tunnel." *Civil Engineering and Public Works Review* 59 (April 1964), 453, 455.

Samuel, Peter. *Vincent Thomas Bridge Detolled*. 8 November 1999.
<http://www.tollroadsnews.com/node/2455> (accessed June 17, 2010).

Smith, G. W., G. D. Gilbert, E. F. Van Zee, S. J. Robinson, and R. T. Fuller. "Rio Vista Bridge." *California Highways and Public Works* 39, no. 5-6 (May-June 1960), 51-57.

Smyth, Andrew W., Jin-Song Pei, and Sami F. Masri. "System identification of the Vincent Thomas suspension bridge using earthquake records." *Earthquake Engineering and Structural Dynamics* 32 (2003), 339-367.

Stuzinski, S. H. "Some Examples of box girder bridges in California." *The Structural Engineer* 8, no. 41 (August 1963): 253-257.

Supplementary Bridge Reports (Caltrans Record). 1943, 1962, 1966, 1982.

"Tandem Construction of Tube Sections Nets Extra Progress." *Construction Methods and Equipment*. June, 1961. n.p. Located in the Bridge Inspection Records Information System files of Caltrans.

The Port of Los Angeles. *History of the Vincent Thomas Bridge*. n.d.
<http://www.portoflosangeles.org/BridgeLighting/index.htm> (accessed 14 July 2010).

"The Vincent Thomas Bridge – South California's First Major Suspension Span." n.d. Informational Booklet located in the Bridge Inspection Records Information System files of Caltrans.

"The Webster Street Tube." Opening Day pamphlet. 13 February 1963. Located in the Bridge Inspection Records Information System files of Caltrans.

Tyrrell, Henry Grattan. *History of Bridge Engineering*. Chicago: Henry Grattan Tyrrell, 1911.

US Engineer Office, War Department. Memorandum of "Approval of plans for reconstruction of bridge across the Sacramento River at Rio Vista, California." 12 July 1944. Located in the Bridge Inspection Records Information System files of Caltrans.

"West Branch Feather River Bridge - General Plan." 19 August 1959.

Western Construction (King Publications) 37, no. 4 (April 1962): 68-71.

"Why Are Many California Bridges Prestressed?" *Engineering News-Record* 159, no. 3 (July 1957): 36-51.

Williford, Ginger. *Historical Architectural Survey Report: Bridge Evaluation Report for Repairs on the Pit River Bridge #06-0021*. Prepared for the California Department of Transportation Office of Environmental Management, n.p., May 2000.